

1       WHAT IS CLAIMED IS:

2               1. A grease bath seal for a swing mechanism of a construction  
3       machine, having an inner ring on the side of a vehicular base carrier  
4       relatively rotatably coupled with an outer ring on a swing frame on the  
5       side of an upper swing structure of the construction machine, a ring  
6       gear provided on the inner periphery of said inner ring and meshed  
7       with a swinging pinion on the side of said upper swing structure, a  
8       center joint located within an opening provided in said swing frame at  
9       a rotational center thereof, and a grease bath located beneath said  
10      swing frame and around said center joint and defining an annular  
11      grease bath portion around a top plateau wall connected to said center  
12      joint, thereby to lubricate meshed portions of said ring gear and said  
13      swing pinion, characterized in that said grease bath seal comprises:

14             an annular seal member having a height larger than a width of a  
15      spacing between said swing frame of said upper swing structure and  
16      said top plateau wall of said grease bath in a free state and interposed  
17      in a compressed state between said top plateau wall and said swing  
18      frame at a position radially outward of said center joint; and

19             said seal member being detachably fixed either on the side of

1 said swing frame or on the side of said top plateau wall of said grease  
2 bath, and having an annular sliding portion extended out in a radially  
3 inward direction from the other side for pressed sliding contact with  
4 said top plateau wall or said swing frame.

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6 2. A grease bath seal as defined in claim 1, wherein said seal  
7 member is located at a position in the proximity of said center joint.

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9 3. A grease bath seal as defined in claim 1, wherein said seal  
10 member is constituted by an annular main block having an anchoring  
11 end portion of a predetermined length on the outer peripheral side  
12 and a lipped end portion on the inner peripheral side thereof, said  
13 lipped end portion having an annular lip portion erected at and along  
14 inner periphery thereof, and said grease bath seal further comprises a  
15 seal holder in the form of a ring of a staggered shape in section having  
16 a raised seal holder portion at a predetermined height from upper  
17 surface of said top plateau wall of said grease bath, and a base portion  
18 formed around outer periphery of said seal holder portion and fixed on  
19 said top plateau wall at a position in the proximity of said center joint.

1           4. A grease bath seal as defined in claim 3, wherein said lip  
2       portion is projected upward from said lipped end portion of said main  
3       block and adapted to be bent downward through upon abutment  
4       against lower side of said swing frame through elastic deformation for  
5       sliding contact with the latter over a predetermined width in radial  
6       direction.

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8           5. A grease bath seal as defined in claim 3, wherein said seal  
9       member is provided with a lubricant reservoir on said main block  
10      radially on the outer side of said lip portion to store the same lubricant  
11      as the one in said grease bath.

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13          6. A grease bath seal as defined in claim 5, wherein said  
14      lubricant reservoir is in the form of an annular groove formed on the  
15      top side of said lipped end portion radially on the outer side of said lip  
16      portion to store the same lubricant oil as the one in said grease bath.

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18          7. A grease bath seal as defined in claim 5, wherein said  
19      lubricant reservoir is formed by an annular projection provided at and

1 along outer periphery of said lipped end portion of said seal member.

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3 8. A grease bath seal as defined in claim 7, wherein said annular  
4 projection is arranged to have a sufficient projection length for sliding  
5 contact with lower side of said swing frame.

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7 9. A grease bath seal as defined in claim 8, wherein said annular  
8 projection is adapted to bent upon abutment against lower side of said  
9 swing frame through elastic deformation in an opposite direction  
10 relative to direction of elastic deformation of said lip portion.

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12 10. A grease bath seal as defined in claim 1, wherein said top  
13 plateau wall is divided into two separable plateau sections, i.e., an  
14 outer plateau wall section formed integrally with other bath-forming  
15 walls of said grease bath, and an inner plateau wall section connected  
16 to said center joint on the inner peripheral side thereof.

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18 11. A grease bath seal as defined in claim 10, wherein inner and  
19 outer peripheral ends of said outer and inner plateau wall sections are

1 joined with each other at a position, and said seal member is located  
2 across joined ends of said outer and inner plateau wall sections.

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4 12. A grease bath seal as defined in claim 1, wherein said  
5 plateau wall is connected to said center joint in such a way as to leave  
6 one or a plural number of gaps or opening around said center joint.

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